WHAT IS CLAIMED IS:

1. A power semiconductor device, comprising:

a first resin-sealed switching element including a first gate electrode, a first emitter electrode and a first collector electrode;

a second resin-sealed switching element including a second gate electrode, a second emitter electrode and a second collector electrode;

a third resin-sealed switching element including a third gate electrode, a third emitter electrode and a third collector electrode;

a fourth resin-sealed switching element including a fourth gate electrode, a fourth emitter electrode and a fourth collector electrode; and

a bus bar having first to fourth bus electrodes provided thereon in this order, wherein

said first resin-sealed switching element and said second resin-sealed switching element are arranged to face each other with said bus bar therebetween, and said third resin-sealed switching element and said fourth resin-sealed switching element are arranged to face each other with said bus bar therebetween,

said first collector electrode and said second collector electrode are connected one over the other with said first bus electrode,

said first emitter electrode and said second emitter electrode are connected one over the other with said second bus electrode,

said third collector electrode and said fourth collector electrode are connected one over the other with said third bus electrode, and

said third emitter electrode and said fourth emitter electrode are connected one over the other with said fourth bus electrode.

2. The power semiconductor device according to claim 1, wherein

said first to fourth resin-sealed switching elements are arranged on a surface of a single cooling fin, and

said first to fourth gate electrodes stand vertically with respect to said surface of said cooling fin.

3. The power semiconductor device according to claim 2, wherein

said first to fourth emitter electrodes and said first to fourth collector electrodes stand vertically with respect to said surface of said cooling fin.

4. The power semiconductor device according to claim 1, wherein

said second bus electrode is connected to a negative electrode,

said third bus electrode is connected to a positive electrode, and

said first bus electrode and said fourth bus electrode are connected to an intermediate electrode for inputting or outputting an intermediate potential between a potential of said negative electrode and a potential of said positive electrode.

5. The power semiconductor device according to claim 2, wherein

said second bus electrode is connected to a negative electrode,

said third bus electrode is connected to a positive electrode, and

said first bus electrode and said fourth bus electrode are connected to an intermediate electrode for inputting or outputting an intermediate potential between a potential of said negative electrode and a potential of said positive electrode.

6. The power semiconductor device according to claim 3, wherein

said second bus electrode is connected to a negative electrode,

said third bus electrode is connected to a positive electrode, and

said first bus electrode and said fourth bus electrode are connected to an intermediate electrode for inputting or outputting an intermediate potential between a potential of said negative electrode and a potential of said positive electrode.

7. A power semiconductor device, comprising:

a first resin-sealed switching element including a first gate electrode, a first emitter electrode and a first collector electrode;

a second resin-sealed switching element including a second gate electrode, a second emitter electrode and a second collector electrode;

a third resin-sealed switching element including a third gate electrode, a third emitter electrode and a third collector electrode;

a fourth resin-sealed switching element including a fourth gate electrode, a fourth emitter electrode and a fourth collector electrode;

a bus bar having first to fourth bus electrodes provided thereon in this order,; and

a resin for sealing said first to fourth resin-sealed switching elements and said bus bar together, wherein

said first resin-sealed switching element and said second resin-sealed switching element are arranged to face each other with said bus bar therebetween, and said third resin-sealed switching element and said fourth resin-sealed switching element are arranged to face each other with said bus bar therebetween,

said first collector electrode and said second collector electrode are connected

one over the other with said first bus electrode,

said first emitter electrode and said second emitter electrode are connected one over the other with said second bus electrode,

said third collector electrode and said fourth collector electrode are connected one over the other with said third bus electrode, and

said third emitter electrode and said fourth emitter electrode are connected one over the other with said fourth bus electrode.

8. The power semiconductor device according to claim 7, wherein

said first to fourth resin-sealed switching elements are arranged on a surface of a single cooling fin, and

said first to fourth gate electrodes stand vertically with respect to said surface of said cooling fin.

9. The power semiconductor device according to claim 8, wherein

said first to fourth emitter electrodes and said first to fourth collector electrodes stand vertically with respect to said surface of said cooling fin.

10. The power semiconductor device according to claim 7, wherein

said second bus electrode is connected to a negative electrode,

said third bus electrode is connected to a positive electrode, and

said first bus electrode and said fourth bus electrode are connected to an intermediate electrode for inputting or outputting an intermediate potential between a potential of said negative electrode and a potential of said positive electrode.

11. The power semiconductor device according to claim 8, wherein

said second bus electrode is connected to a negative electrode,

said third bus electrode is connected to a positive electrode, and

said first bus electrode and said fourth bus electrode are connected to an intermediate electrode for inputting or outputting an intermediate potential between a potential of said negative electrode and a potential of said positive electrode.

12. The power semiconductor device according to claim 9, wherein

said second bus electrode is connected to a negative electrode,

said third bus electrode is connected to a positive electrode, and

said first bus electrode and said fourth bus electrode are connected to an intermediate electrode for inputting or outputting an intermediate potential between a potential of said negative electrode and a potential of said positive electrode.